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Sarah J. Halvorson

# “Placing” Health Risks in the Karakoram

Local Perceptions of Disease, Dependency, and Social Change in Northern Pakistan

271



*This article examines local perceptions of health risks in a mountain community in the Karakoram of Northern Pakistan. Specifically, it aims to show how the tremendous social and economic trans-*

*formations taking place in this region are experienced and understood by the people most affected by them. The case study draws from ethnographic data collected through a range of methods, including personal narratives, focus groups, interviews, household surveys, conversations, and participant observations. Central to this analysis is the role that social change plays in mediating and shaping residents' worries, and perceived vulnerabilities within this particular economic and cultural context. Furthermore, the effects of the global economy on how people assess their dependency on external factors and processes are explored, including attention to the ways in which newly introduced products and technologies raise concerns about product safety, health security, and community cohesiveness. This analysis of local narratives of health risks illustrates these points and demonstrates how residents' constructions of risk provide a basis for understanding local debates and doubts about how “development” and modernity are being approached in this mountainous region.*

**Keywords:** Health risks; social change; Karakoram; Northern Pakistan.

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## Introduction and methodology

In the Karakoram, a local discourse on health risks is emerging that voices concern about changing environmental and social conditions. Linked to this discourse are notions of uncertainty and insecurity about the quality of the environment, about new health risks, and about shifting social vulnerabilities as the region becomes increasingly integrated into globalized markets and patterns of consumption. It is especially interesting to look at local perceptions of risk because they relate to broader health and livelihood concerns at this point in time and because they raise important questions about how development is being approached in mountainous regions. Starting with the perceptions of residents in a community in Northern Pakistan, the analysis presented

in this article seeks to reveal the breadth of interpretations of “emerging” health risks and to demonstrate how these relate to broader debates about rapidly changing social and environmental realities.

Since the 1970s, communities in the mountainous margin of Northern Pakistan have faced challenges to their economic, cultural, and social systems (Butz 1993; Kreutzmann 1993, 1995; MacDonald 1994; Azhar-Hewitt 1998). Their struggles have involved significant shifts from traditional agricultural systems to commercial crop production (eg, fruit, potatoes, and vegetables) (World Bank 1996; Azhar-Hewitt 1999). In one sense, the pathways of social “development” in the region—electricity, paved roads, schools, shops, and health clinics—are symbolic of modernity and reflect a greater presence of state and global civil society in the region. At the same time, as the country has stumbled into economic and political crisis and intensifying debt, it is no surprise that poor mountain families with marginal access to arable land and resources have become increasingly embedded in struggles for survival. This research aims to contribute to a growing literature that seeks to understand how the choices and risks people experience, especially in mountainous areas, are structured in relation to particular health and development trajectories (see, for example, Gifford 1986; Douglas 1992; Frankenberg 1993; Jodha 1995; Ives 1997; MacDonald 1998; Beck 1999).

This study is based on an analysis of empirical data collected as part of a larger research project on child health carried out in 1996 and 1997–1998 in the community of Oshikandas (Figure 1). The research methods included in-depth interviews, child health and family histories, personal narratives, focus groups, and numerous conversations I conducted in Urdu or in 2 of the local languages—Shina and Burushaski—with the help of local field assistants. The extended periods of participant observation were indispensable components to building an understanding of the breadth of local interpretations of health risks within the contexts of people’s everyday lives and sociocultural frameworks. I use the term “perception” as a broad and inclusive concept to describe the awareness, attitudes, values, memories, and images that influence human behavior in the face of risk and hazard (Douglas and Wildavsky 1982; Sarrinen et al 1984; Slovic 1987; Blaikie et al 1994). I elected to focus on the topic of perceptions because these are important variables in shaping response and adaptation to risk and hazards not only in the Karakoram but also throughout mountainous areas in Asia (Bjonnness 1986; Messerli and Ives 1997; Bohle and Adhikari 1998). Here, I attach importance to how local people conceptualize health risks because their voices are too often devalued, ignored, or forgotten in policy and development discussions. I have chosen pseudo-



**FIGURE 1** Map showing the location of the study area, District of Gilgit, Northern Pakistan. (Map by Vanessa Stepanek, University of Colorado Geography Cartographic Laboratory)

nymys for all study participants quoted in this article to ensure the confidentiality of interviews and personal narratives.

### From rural village to “town in transition”

Oshikandas is located 13 km southeast of Gilgit along the banks of the Gilgit River. According to oral accounts, the community was initially settled by people from the valleys of Bagrot and Hunza, who migrated in 1937 with the hopes of finding land and a secure water source for irrigation (Kreutzmann 1985). When asked to characterize the community today, people usually reply: “It is a town in transition”; “It is becoming like a city and is no longer a village”; or “It is a suburb of Gilgit.” Certainly, the population increase from a few hundred to over 5000 people living in approximately 600 households has played a role in this transition. Today, about 60% of the population belongs to the Shia Imami Ismaili sect of Islam. The remaining population identifies itself as Shia.

The history of social and economic change in this community can be organized around the following 3 periods.

#### Early decades of settlement: 1937–1970

During this period, Oshikandas was transformed from *das* (barren, uncultivated land) to a site of productive

subsistence agriculture by bringing irrigation water to the desert. The accounts of elders and other long-time residents of the early years are marked by descriptions of food scarcity, threats of famine, exposure to temperature extremes and harsh environmental conditions, and struggles for basic survival. People took on these hardships to escape the heavy taxation at their previous homes and to alleviate the burden on their relatives.

Cash played a minimum role in people’s lives and household economies. Rather, the emphasis was on cooperation among families according to understanding of mutual support and reciprocity. Networks linking families to their place of origin and to people of similar language and religious affiliation (Ismaili, Shia, and to a lesser extent Sunni) continued to develop. In this way, Oshikandas was culturally and religiously diverse from the outset, unlike many villages in the Karakoram that have long histories of cultural and religious homogeneity.

#### Second period of development and change: 1970–1990

The next 2 decades, from 1970 to 1990, brought notable transformations. The village developed a reputation for high-quality vegetable and fruit production. Maximizing agricultural production required skill, labor, and land, and families continued to rely on the foundations of cooperation and mutual support established during the early years of settlement to maintain

their production. An interest in acquiring the growing array of “modern” or “outside” products coupled with the vital need to supplement subsistence production to satisfy unmet food needs added to people’s growing dependence on local and external markets. By the mid-1980s, cash incomes had attained a degree of criticality in household economies, thereby leading to new ways of measuring wealth and to different patterns of resource use and access within the community.

### Third period of transition: 1990 to the present

Since the early 1990s, the transformations that were set in motion during the previous period have continued to affect health, livelihoods, and social relations in Oshikandas. Though the landscape remains punctuated by the traditional agricultural features of fields, gardens, forests, and orchards, it is also marked by many signs of modernity: a *pakka* (paved) road, electricity, phone lines, schools, health center, stores, cement block homes surrounded by high rock walls, satellite dishes on roofs, tea shops, video rental stores, men’s tailors, flour mills, drug stores, and a *nulka pani* (piped water) system providing filtered water to one third of the community. Vehicle ownership (tractors, motorcycles, jeeps, and Suzukis) and the expansion of commercial activities are the most striking signs of prosperity and alterations of people’s lifestyles.

Population growth has been driven, in part, by complex social and economic pressures in other mountain valleys that stimulate migration to Gilgit and environs. The influx of people has been accompanied by land sales, subdivisions, and construction of houses. Furthermore, the ethnic and linguistic makeup of the population has changed with the arrival of migrants from Astore, Skardu, Haramosh, and Chitral rather than from mainly Bagrot or Hunza as in the past. As a consequence, the social composition and the views and attitudes of residents are much more diverse and diverging than they were 20 years ago. Conversations are marked by discriminating expressions such as “our people and theirs,” and “he is one of ours” to indicate who does and does not belong to the various social groups.

Residents offer a range of reasons to explain the growing need for cash. Changes in local dietary habits; farming practices; the growing importance of and new cultural orientations toward large weddings, gift exchanges, and dowries; and changes in the materials used for house construction all compound existing household expenses. Moreover, there is evidence that some extended families are breaking up into smaller household units. The breaking up of large households reflects a growing disinterest in having to subsidize non-income earning family members and changing attitudes toward family and family obligations, as observed by Nizam, a village elder:

At one time, we all sat together to eat out of one common bowl. We ate together and worked together. Now times have changed. Every person is off here and there thinking of himself. Everyone eats from his own plate today.

The image of people eating from their own plates rather than from a communal bowl is a particularly popular and telling metaphor that is often used to describe what is perceived to be a shift away from shared experience and purpose of working together toward a common goal. In a culture that strongly values self-sufficiency, self-reliance, dependence on kinship and friendship networks, and caring for other people, the changes have brought deep feelings of anxiety about the deterioration of community values and people’s capacity to get by on their own.

### Local debates about disease and dependency

As Hewitt (1997) notes, change is “experienced as the upsetting or collapse of feelings of security.” This is aptly put for the Oshikandas case as well. In discussions concerning health and social change that took place in the orchards, fields, and homes during this research, local interpretations centered on individuals and families participating in a negotiation for a way of life that is being threatened by various factors. In spite of contradictions in some narrative accounts, all share key elements of images of change, be they positive or negative, for health and livelihood. Here, the notion of “health risks” is drawn from local constructions that highlighted connections between various aspects of the rapidly changing reality and factors that might make people ill rather than specific diseases or disease outcomes per se. People formulated broad understandings of risk that often reflected their main worries and concerns over struggles to sustain families in a tenuous environment and under shifting conditions of control over lives and resources.

Local accounts of health trends in the community suggest that constructions of risk are undergoing subtle redefinition as people draw comparisons between past and present situations and conditions. Men and women tend to agree that there is a higher standard of living, increased education levels, and easy access to products because of improved transportation networks. Medical facilities are now accessible and medicines can be purchased in local shops. Recent initiatives in local development have given people a sense of hope that they are not being neglected by regional and national programs. Yet, there are strong expressions of cynicism with regard to the impacts of these changes on the population’s long-term health, vulnerability, and well being. For example, one woman commented:



**FIGURE 2** Local men unloading wheat imported from the Punjab, Pakistan (Photo by author, June 1998).



There is a remarkable change. Now very easily we can get medicines. There are hospitals. But to be frank, in the past there were not so many diseases. Now fatal diseases are very common. Cholera is very common. Minor diseases are very common. Parallel to this, there are effective medicines and treatments. Now the doctor goes door-to-door carrying medicines for treatment. Now there is the Prime Minister's health program. Newborn babies and children are weighed and medically examined. Medicines are distributed among people. Now we are satisfied... It is a pity that in spite of all of these measures, diseases are being spread rapidly.

The complexity of the relationship between disease and social change was highlighted in one focus group, in which a debate arose about current health trends. As people exchanged ideas about health, Ambreen and Nilofer debated the relationship between disease and modernity:

**Ambreen:** In the olden days there were not too many diseases. For severe diseases, especially fever, we took only soup. Olden days were good indeed. No doubt that at that time there were no medicines at all. Almighty Allah helped us... Our area was free of diseases. Now there are plenty of diseases and plenty of drugs.

**Nilofer:** *Nai!* In the olden days there were many diseases, but generally people did not know about it. Because there were no doctors, no hospitals, nobody could diagnose. You know this world has never been free from diseases. In olden times people died of unknown diseases. But now you see that there are proper cures and a lot of medicines.

The various opinions about changes in health and healing are synonymous with changing perceptions of disease risks. Alterations in diet are a case in point. Locally grown and homemade foods were considered by research participants to be clean, fortifying, and *taqat-war* (full of strength). Local apricot kernels, apricot kernel oil, and dried apricots were viewed as possessing unique disease-preventing qualities. Contrasting with locally produced food, grains and spices purchased in the bazaar were commonly perceived as a potential source of disease. Imported wheat and flour and packaged or powdered milk were deemed inferior in *taqat* (strength or nutritional value) to local products (Figure 2). An especially controversial product has been Markor® brand packaged iodized salt that was introduced in Northern Pakistan in 1977 (Kreutzmann 1989) to reduce the prevalence of goiter. Some people believe this salt is mixed with family planning *dowai* (medicine) and is a part of an international campaign to curb population growth among Muslims.

At issue is the fact that people do not personally know the source or suppliers of the majority of *bazaari* (store or market) products, which in turn generates fear of tainted or adulterated foodstuffs and distrust of rural health and development initiatives. These views were connected to attitudes about the influence of down-country dietary habits that were noted especially by older people such as Bibi, a long-time resident:

In the past pregnant women were given simple food, fermented wheat, butter, and different sorts of soups... We ate roasted kernels and apricot juice, which were pure foods. Now everywhere is *chai, chai, chai* (tea, tea, tea)!

In general, greater consumption of and dependence upon products that are new to the area or that are made, grown, or packaged outside of the community were perceived as simultaneously compromising community values and health, as Bibi put it:

One thing in particular that I will tell you is that in former times nobody purchased food from the bazaar. The society never encouraged those who brought food from the bazaar. It looked very bad. People grew their own crops, vegetables, and pulses. But now we bring everything from the bazaar.

Bibi's perspective reflects her direct engagement with changing patterns of consumption, which leads us to a central theme in people's portrayal of shifting dependencies: the association between the breakdown of traditional food systems and household health. The tenuous circumstances of "bringing everything from the bazaar" were associated with the dependency on cash to

accommodate the changes in local diets, tastes, and lifestyles. Lal, a woman in her forties who came to Oshikandas over 20 years ago, put it this way:

Well, I came from Gojal [Upper Hunza]. We led a good life. We never sold our crops, vegetables, or other things... Now people sell their crops and apricot kernel oil and purchase Dalda [oil]. In other words, we sell the good things and purchase diseases.

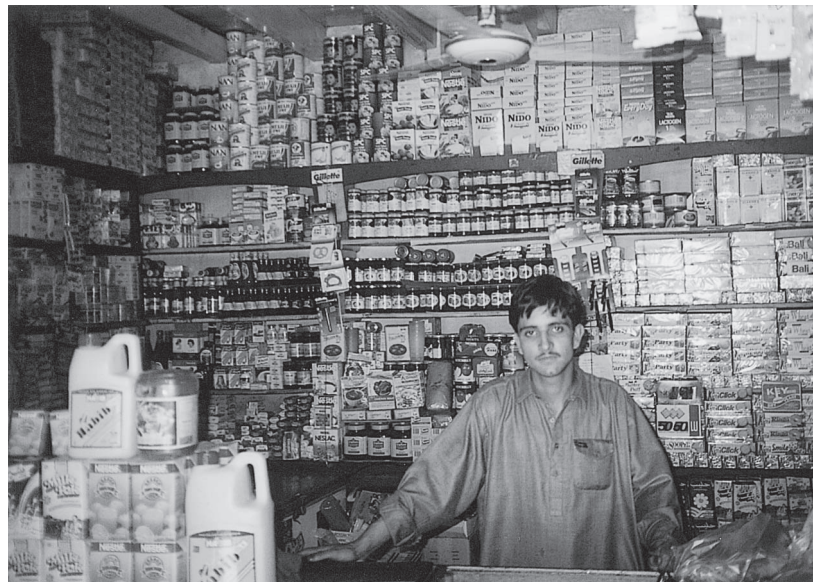
Dalda vegetable oil, which is widely used as a substitute for local clarified butter and apricot kernel oil, and tea have emerged as symbols of ill-health and disease in the community. People regret that high costs of tea, oil, and sugar have, in turn, forced families to sell their fruit. While some admit that they have gained much-needed income through fruit and vegetable sales, the trade-off is that these nutritious foods are no longer available for household consumption (Figure 3).

One other point regarding market dependencies can be gleaned from these discussions. In the context of mountain farming systems today, people feel pressed to bring in the cash necessary to sustain a growing dependence on “modern” industrial agricultural technologies and inputs, thereby further crumpling people’s feelings of security. For some, agrochemical inputs are viewed as one more level of *dowai* (medicine) that has destabilized ecological processes and previous periods of health security. Ali, who was born in Oshikandas and has lived there most of his life, explained:

Before... there was no medicine for humans so how could there be medicine for the livestock? But the diseases were not here before. Before people lived off of what they grew. They would store a little wheat for the following year, they would store seeds, they would store apples. If, say, I did not have a good type of wheat, but my neighbor did, then I would go to him and trade some of my wheat for his. This is the way things worked then. They used their own fertilizer. Today everyone is using the *bazaari* fertilizer. When the *bazaari* fertilizer came, all of the illnesses came. What a strange time! Now you need medicines for goats, for fields, for apples, for everything.

These perceived new risks and dependencies threaten people’s sense of security in a particular way of life, livelihood, and ties to a place. The outwardly stated concerns about chemicals in the environment, deteriorating diets and food quality, and new diseases can be seen as indicators of much deeper worries about maintaining a certain quality of life and a set of social and cultural values. In addition, these opinions illuminate a degree of distrust, as well as opposing views, about the

**FIGURE 3** The inside of a typical *ducan* (store) selling foodstuffs such as cooking oil, tea, powdered milk, and biscuits that have been prepared and packaged in the lowland urban areas and distributed throughout communities in Northern Pakistan. (Photo by author, July 1998)



impacts of development and modernity on health and community dynamics.

### An emerging “geography of worry”

The complex set of impressions and views point to an emerging “geography of worry.” Many of these worries surround the upbringing of children in this changing and seemingly unpredictable context. In discussions about the sources of worry in their lives, the greatest concerns mentioned by participants related to the affordability of education:

If the children do not get a good education, then how will they spend their lives? If my husband doesn’t get a good job and salary, then how will we pay for their education? Everything costs money.

I worry about the children’s education. They may not get a pencil, a book, a notebook. How to give them a good education in the future?

As these quotations suggest, the future of their children, rather than their children’s health per se, seemed to be a constant worry for many parents. Parental concerns about raising children were accentuated by a perceived economic vulnerability. From these discussions of sources of worry and the linkages between these worries and household security, two main points regarding the “geography of worry” can be culled. First, in conversations it became clear that parents’ concerns centered on the realization that their children’s well-being is not necessarily linked to the land but rather to future employment as dictated by the demands of the global

economy. My observations suggest that the greatest hope parents have is that their children, mainly sons, will find some type of off-farm employment.

Second, given the loss of economic independence and because of some of the overwhelming everyday worries, the cornerstones of parental views about how to keep their children healthy centered on precautionary measures. While parents strive to bring up their children in accordance with local notions of health (Halvorson 2000), the reality of attaining and maintaining this standard is difficult, given resource constraints, economic crisis, and the realities of widespread unemployment in Northern Pakistan. For example, diet figured prominently in local strategies for maintaining health, yet some people mentioned that securing a nourishing diet was difficult for them because of their lack of access to land, agricultural inputs, and cash for the purchase of seeds, fruit trees, poultry, livestock, and so forth. Being able to afford good health, *jadeed* (modern) houses, a clean living environment, a proper diet, and education were seen as accessible only through participation in formal employment and market activities.

Despite the challenges of raising children in Oshikandas, the majority of parents remained optimistic that their children will find opportunities to overcome the problems of rural poverty in the future. Zenab, a mother of 2 children, provided this insight:

For the future we are looking towards our new generation. Those who are in the cradle now, those who go to school, will bring a real change. We want our young ones to get an education in English. We wish that our area is known as a place that people say is *pakka* (pure) and free of diseases. There should be improvements in health. We wish that our children would not have to play in a dirty environment. Change can be achieved through modern and scientific education.

## Conclusions

What can be learned from the perceptions of health risks articulated by people in Oshikandas? First, risk perceptions are influenced by complex factors in the local context in which the risk is embedded. These local perspectives illustrate the ways in which the meanings of well-being and risk are socially constructed and integrally linked to modes of production, community values, and consumption patterns.

Second, risk perceptions undergo redefinition and reinterpretation in light of perceived social and economic complexity. The local narratives suggest that socioeconomic and political forces of marginalization, alienation, the dominance of the cash economy, the breaking up of families, and changes in diets and lifestyle are strong determinants of people's perceptions and articulations of risks.

Third, the penetration of the market economy and complicated forces of social change have challenged the meanings of development and modernity as risk-free processes. These processes are associated with new diseases and dependencies in the community that threaten livelihoods, human health, and community cohesion. Indeed, the perceived breakdown of cooperative labor traditions does have actual long-term implications for mutual systems of labor exchange that are aimed at a range of tasks, from the care of children and the harvesting of fields to the care of the sick and elderly. In questioning the varied impacts of development, local people are challenging conventional western theories and interpretations of the health and community benefits associated with "progress."

Finally, the people I spoke to pointed to inherent contradictions in people's views of the process of development. While they highlighted the benefits brought by electricity, a paved road, and better transportation to their community in the past decade, they also stressed that there are increasing and unavoidable problems concomitant with the arrival of new social and physical infrastructure. More significant than the substantiation of one or another explanation of change, the narratives share salient elements of a local discourse (and debate) about risks to health. The problem for all is not a question of disease prevalence so much as it is a problem of the unpredictable and debatable nature of social and rural transformations.

In sum, I want to suggest that an understanding of what Ken Hewitt (1997) refers to as "a broad vernacular interpretation of risk" is central to local understandings of insecurity and vulnerability in this particular place. A general conclusion is that cultural values and context should play a greater role in conceptual frameworks to understand risk perceptions. Assessments of mountain livelihoods on the part of development practitioners and policy-makers also need to be consonant with the realities of people's perceived risks and worries.



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